ARCADIAN

ARCADIAN IMPROVEMENTS Most of the visible changes in the Newsletter should be in place by the next issue. Those things you won't see are in the areas of production and distribution. We plan to have a regular tutorial segment, at three different levels, in each issue. Coordination of this area will be done by Don Gladden. Authors are encouraged to contact Don at
59400 Nine Mile Road, South Lyon, MI 48178
to find out what subjects have been requested by subscribers, what mechanical requirements there are to make it easier to place material physically into the ARCADIAN, and similar data. We are also going to pay for tutorial material on a per page basis, to entice more authors and subject matter.

In order to find more room in the ARCADIAN for these articles and the programs, we are going to a newspaper rate at the postal service. There is a bit more labor involved in getting the Newsletter ready for mailing, but the opportunity to be able to provide as much space as necessary in each issue makes up for it. We will now be able to handle programs that are written for the 4, 8, and 16K memory additions.

SUBSCRIPTIONS FOR VOLUME 5 are now being solicited. The improvements mentioned above, plus others already made or yet to come, require that the rate be increased to   ➡$15.00⬅
We close all books when Issue 12 is mailed, and start the next Volume with a new mailing list. Send your check or money order now to assure your entry into the Volume 5 list.

CANADIAN SUBSCRIBERS: We now have an account with the Canadian Imperial Bank of Commerce, and so can accept checks drawn on Canadian Banks in Canadian funds, at the rate of $20 for the year. But please make these checks out to Robert Fabris.

SUGGESTIONS FROM SUBSCRIBERS have been coming in, and are being considered in our deliberations. The three-tier system of tutorials will concentrate most heavily in the area of elementary material, as the subscriber response has indicated a widespread need. The ARCADIAN is evolving as time goes on and the external world changes, and it takes a bit of time to react to a situation. We do not have a staff of personnel churning out material - when a need appears, we have to contact someone and cajole him into writing a piece. A lot of material comes in voluntarily, just showing up in the mail. This haphazard approach will change now with the welcome addition of Don Gladden, who will concern himself with the locating of a cadre of writers, and developing a schedule of subjects. Not only will we be explaining the whys and wherefores of the Arcade unit in general, but also do a lot of detail work, such as taking apart a piece of a program, and explaining why the author did what he did. We should see some results of this in the first issue of the next Volume, but the system as an entity will take a few months to get up to speed.

HORIZONTAL SCROLLING - II: The challenge of page 98 was taken up by Rusty Blommaert. We now have a little subroutine that will allow the entire screen to scroll horizontally to the right, one pixel each time it is CALLed. One of my local experts, Al Rathmell, reports that the routine can be loaded in any unused area of the system RAM or add-on memory. In the example shown below, we have placed the routine at the bottom of the AstroBasic's stack. Load the routine with the following loading program;
    FOR A= 20258 TO 20290; INPUT %(A); NEXT A
Now input the 33 values listed on page 112.
To scroll one pixel, just type CALL 20258 GO
To scroll a number of pixels - say 16 - use this statement:
    FOR A = 1 TO 16; CALL 20258; NEXT A

Now, will someone figure out how to scroll to the left - and up - and down ???

DUST COVER MODIFICATION has been added by Allen Skaggs by incorporating two small hinges to the back of the Arcade and the cover. With these, Allen included a short chain to keep the cover from going back too far, a swivel link to avoid tangling, and a little knob on the front to add a little 'class'.

ANOTHER EXPANSION CHOICE will be available next month, from R & L Enterprises. This will be a bare-board item that can be owner-loaded up to 64K of RAM. The board is designed for maximum flexibility, having an Astrocade output connector so that other expansions or whatever can be connected downstream, and it is usable with either AstroBasic or BallyBasic. A special short-time offer will be made in their advertisement to appear next month - and a contest, too.

OPEN HOUSE at Home Arcade Electronics was a resounding success. All present enjoyed a video film showing the capabilities of ZGRASS. They are having their next get-together on 18 Sept. at 2 pm. Locals should call 213-443-4189

INCENTIVE PLAN responses have not been overwhelming, so we want to remind you of the scheme to get more retailers involved in their product. The more these people know about the capabilities of the Arcade, the more enthusiastic they will be about getting products to support it.

NITRON AGREEMENT - See the clipping on p. 113. It will be interesting to see how this arrangement works out. Obviously it gives Astrocade some quick cash, but it adds one more voter in the process - and responsibility - loop.

REMEMBER, in reading the program listings, the following notation is used to indicate certain characters:
    a = → , b = ✕ , c = ÷ , _ =← , ´ = ↓

```
  10 CLEAR ;NT=0;BC=RND (32)b8;FC=BC+4+RND (32)b8
  17 PRINT "    FRAME         SCORE";A=1;B=0;C=0;&(19)=25
  20 BOX 0,0,43,87,3;BOX 0,0,41,85,3;FOR Z=0TO 22;@(Z)=0;NEXT Z
  40 BOX 0,-35,41,15,3;BOX -13,-15,1,2,3;BOX -6,-12,1,2,3;BOX 0,-9,1,2,3;BOX 6,-
12,1,2,3;BOX 13,-15,1,2,3
  50 FOR Z=23TO 32;@(Z)=1;NEXT Z;CX=-47;CY=30;PRINT #1,A;CX=48;CY=30;PRINT #1,B;
E=0;GOSUB 890
  60 IF A=11IF @(18)+@(19)#10GOTO 1500
  65 IF A=12IF @(20)#10GOTO 1500
  70 IF A=13GOTO 1500
  80 E=E+1;GOSUB 1000;IF X=0@(23)=2;@(24)=2;@(25)=2;@(27)=2;@(30)=2;@(31)=2
  90 IF (X=-3)+(X=3)IF @(23)=1FOR Z=23TO 32;@(Z)=2;NEXT Z;IF RND (4)=1IF E=1@(32
)=1
  95 IF X=-6IF @(24)=1@(24)=2;@(26)=2;@(27)=2;FOR Z=29TO 32;@(Z)=2;NEXT Z
 100 IF X=6IF @(25)=1@(25)=2;FOR Z=27TO 32;@(Z)=2;NEXT Z
 105 IF X=-9IF @(26)=1@(26)=2;@(29)=2;@(30)=2
 110 IF X=9IF @(28)=1@(28)=2;@(31)=2;@(32)=2
 120 IF X=-12IF @(26)=1@(26)=2;FOR Z=29TO 32;@(Z)=2;NEXT Z
 130 IF X=12IF @(28)=1FOR Z=28TO 32;@(Z)=2;NEXT Z
 140 IF X=15@(32)=2
 150 IF X=-15@(29)=2
 160 GOSUB 890;&(23)=0;&(21)=0;IF E=2GOTO 200
 170 FOR Z=23TO 32;IF @(Z)=2@(C)=@(C)+1
 180 NEXT Z;C=C+1;IF @(C-1)=10GOTO 2000
 190 IF @(18)#10IF @(18)+@(19)=10A=13;GOTO 50
 192 IF @(18)=10IF @(20)=10A=13;GOTO 50
 195 GOTO 80
 200 @(C)=10-@(C-1);FOR Z=23TO 32;@(C)=@(C)+@(Z)-2;NEXT Z;GOTO 2000
 890 FOR Z=23TO 32;GOSUB 877+Z;NEXT Z;RETURN
 900 BOX 0,21,3,3,@(Z);RETURN
 901 BOX -5,27,3,3,@(Z);RETURN
 902 BOX 5,27,3,3,@(Z);RETURN
 903 BOX -10,33,3,3,@(Z);RETURN
 904 BOX 0,33,3,3,@(Z);RETURN
 905 BOX 10,33,3,3,@(Z);RETURN
 906 BOX -15,39,3,3,@(Z);RETURN
 907 BOX -5,39,3,3,@(Z);RETURN
 908 BOX 5,39,3,3,@(Z);RETURN
 909 BOX 15,39,3,3,@(Z);RETURN
1000 FOR X=-15TO 15STEP 3;BOX X,-39,3,3,3;IF TR(1)GOTO 1050
1010 BOX X,-39,3,3,3;NEXT X;FOR X=15TO -15STEP -3;BOX X,-39,3,3,3;IF TR(1)GOTO 1
050
1020 BOX X,-39,3,3,3;NEXT X;GOTO 1000
1050 BOX X,-39,3,3,3;&(23)=255;&(21)=25;FOR Y=-39TO 45STEP 4;BOX X,Y,3,3,3;BOX X
,Y,3,3,3;NEXT Y;RETURN
1500 CY=0;CX=-30;PRINT "GAME  OVER
1505 IF B>T T=B
1506 CX=-60;PRINT "TODAY'S HIGH SCORE
1507 CX=-5;PRINT #1,T
1510 IF TR(1)GOTO 10
1520 GOTO 1510
2000 B=0;CY=15;FOR Z=0TO 18STEP 2;IF Z=10CY=15
2001 IF Z>9CX=70
2005 IF @(Z)=10PRINT "b";IF @(Z+2)=10B=B+20+@(Z+4);GOTO 2060
2010 IF @(Z)=10IF @(Z+2)#10B=B+10+@(Z+2)+@(Z+3);GOTO 2060
2020 IF @(Z)+@(Z+1)=10B=B+10+@(Z+2);PRINT "/";GOTO 2060
2030 B=B+@(Z)+@(Z+1);IF Ab2>ZPRINT "-
2060 NEXT Z;A=A+1;C=C+1;GOTO 50
```
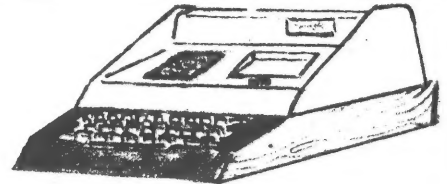
ONE MAN BOWLING

Bob Heckman
4968 Arrowood Ct. SE
Salem OR 97301

This program follows the usual game
format, but in this case it is for
one player only. Use TR(1) to start
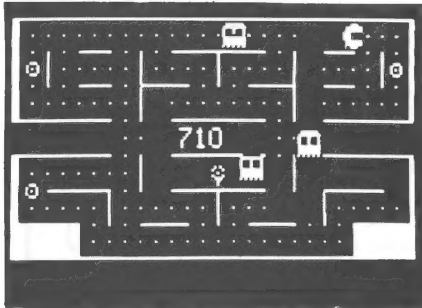the game and roll the ball.   AB & BB

TwO BYTES WORTH by Daniel Drescher

Regardless of the size of the computer you are work-
ing with, learning to program efficiently is of the
utmost importance. In case of Astrocade's 1.8K of
programmable memory it is an absolute necessity.
If you are like most programmers you thrive on chal-
lenge, and here the challenge is to find as many
ways as possible to pack your instructions into
1800 bytes so that they can be executed quickly
and efficiently. This article will examine the
effective use of two bytes of memory.
As you know, the Astrocade computer is equipped with
string variables. They are used with the symbols
@( ) and *( ) and when filled, consume two bytes
each. Two bytes, of course, are necessary so that
each one can store a number between -32767 and
32767. It is important to understand, however,
that two bytes will be consumed whether one digit
or five digits are being stored. For example, if
we use five string positions to store the digits
3,4,2,2,8 we have used 10 bytes. Yet it is pos-
sible to store these same digits using only two
bytes! as @(1) = 22348   while this second
method saves 8 bytes, we must now write a short
program in order to retrieve the digits from
memory.

```
10 A=@(1)÷10000;B=RM÷1000;C=RM÷100;D=RM÷10;E=RM
```

Now A=2, B=2, C=3, D=4, E=8   Of course, with only
one set of digits to store, the line of programming
required to get the digits back uses more memory
than was originally saved. But if many sets are
stored, the savings can be tremendous. Let us take,
for example, a battleship game in which the compu-
ter is required to keep track of several factors
for each player. The system would work like this:
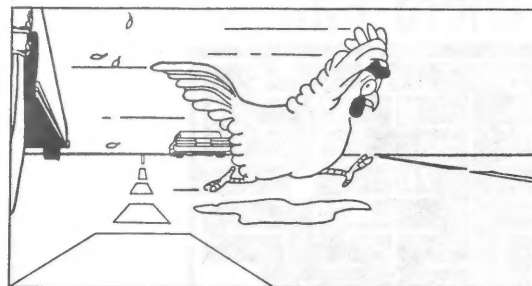   @(1) = 16324   where
      1 = the player who owns the piece
      2 = the type of piece
      3 = strength of piece
      4 = no. of pieces of this type left
      6 = location of piece
This is only an example, but you can easily see
that with a little imagination two bytes can control
several factors.
This system can also be used to create detailed and
attractive graphics. If, for example, we need 80
line commands to draw a detailed figure, the con-
ventional method would cost many expensive lines
of programming. However, since any X or Y point on
the screen can be identified using two digits, any
X,Y coordinate can be identified using four. If all
four are stored in one string variable one digit
may then be added to control the sign of the second
number. The coordinates are retrieved using the
following short program -

```
 5    FOR A = 1 TO 80
10    C = @(A)÷10000; X=RM÷100; Y=RM; C = ABS(C)
20    IF C = 1  Y = -Y
30    LINE X,Y,1
40    NEXT A
```

In this program, A controls the value of the string
position, C is set to 1 or 0 in order to control the
sign (+,-) of the Y coordinate and n is the value of
the final string position plus one. Let us see how
this works. If the first set of coordinates is
20,-30 then the number stored at @(1) is 12030
Using our short program, C = @(A)÷10000 or C = 1
then X=RM÷100 or X = 20 and Y = RM or Y = 30
From line 20, since C=1 Y=-Y or Y = -30 In line
30 the computer draws a line to the coordinates
20,-30. It then adds one to the value of A. Line
40 checks the value of A. If it is less than the
final string position it will return to line 10,
select a new set of coordinates, draw a new line,
and continue the process until the character is
completed. In this fashion, it is possible to
draw the most complicated graphic figure using only
five lines of programming! Some examples of co-
ordinates and how they would be inputted follow:
 10,8 as 01008 18,-20 as 11820 -28,35 as -12835
You can easily see that by establishing your own
code you can manipulate five digits to make them
do almost anything. If you are going to use two
bytes anyway, you might as well get your
                  two bytes worth.

FREE!

PROGRAM ON CASSETTE!!

Yes, there is a free cassette for you, but there is a catch. Let me explain:

A few weeks ago we ordered a quantity of blank cassettes for use in manufacture of our games for the Astrocade. A couple of weeks later we took delivery of the shipment, several large cartons. These cartons were larger than we imagined they should be. To our surprise, upon checking them out, we found there were many times more cassettes than we needed.

We checked with our supplier and found their mistake. After some discussion L & M decided to keep the large shipment and the supplier discounted the return shipping costs.

About the same time, Greg Miller, our programmer, was putting the finishing touchs on a fabulous new game, to be released in October, "Secret of Pellucitar", with great sounding music by George Moses.

This game uses the bit mapping technique to develop the exquisite screen image with fine detail. L & M also used this process in the popular "Alien Invasion" game.

The catch: Order the "Secret of Pellucitar" now for delivery in October and we will send immediately, your cassette with our bit mapping demo. program, free of charge. Also, included on side 1 of this tape is the narrated story of "Secret of Pellucitar".

Cassette #15 $15.95
SECRET OF PELLUCITAR &
SECRET OF PELLUCITAR II

For New Basic Only

L & M SOFTWARE

8599 Framewood Dr.
Newburgh, IN 47630

Mysterious "SECRET of PELLUCITAR"

You are a soldier of fortune in command of the starship Zedra. A captured alien, while dying, has told of a vast silver treasure on a distant planet and given you the secret keys. Great riches lie in the prehistoric subterranean city of Pellucitar. You have hurried there, pushing the Zedra to all possible warp speed.

This game requires a smooth hand and a sharp eye. Who will claim the secret treasure?

This is possibly the most complete use of the Astrocade graphic resolution to date, and one of the largest most detailed play fields yet developed for Basic. The amount of definition is fantastic.

Added to this, a fine musical score by George Moses and it has the potential to become a classic.

Normally, a picture this detailed in full resolution would require more memory than is available in the Arcade program section. We have utilized a special Arcade feature called mass screen memory. There is almost 4K of memory available in this way. The game operation is contained in the 1.8K program memory section. By using both in a unique way this game, with expanded graphics is possible. It is equivalent to about 5K of memory.

"Actual Screen Image"
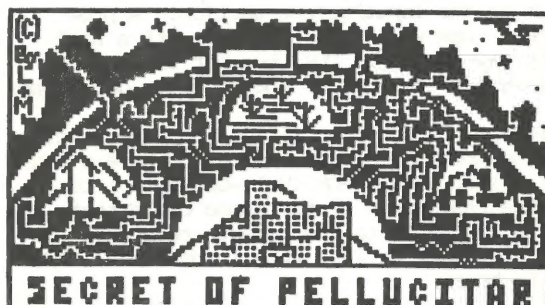
SECRET OF PELLUCITAR

IT'S THE YEAR 9011. THE DRACONIAN EMPIRE HAS CRUSHED ALL OPPOSITION IN THE MILKY WAY GALAXY,SAVE FOR YOUR FORTRESS ON A MOON OF THE RINGED PLANET IRIDESCA.CITY SIZE DRACONIAN STAR DESTROYERS MOVE IN FOR THE KILL. ALL REMAINING CIVILIZATION IS DEPENDING ON YOU.THIS WILL BE THE FINAL CONFLICT OF THE

GAMMA WARS is a unique videogaming experience.The dramatic spacescape & 3-D visuals create an other-worldly atmosphere.Action features include an orbital radar scan & machine graphic sattellite bombs.Astro BASIC only.

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GAMMA WARS

1-2 PLAYERS

Michael Prosise
48-G Ridge Road
Greenbelt, Maryland
20770

(301) 474-5973

V4 N11   OVERCOMING LOADING PROBLEMS
By Michael Prosise

After having communicated with several
people across the country, it has become apparent
that a fair number of BASIC users are experienc-
ing some degree of difficulty in loading record-
ed programs from tape into the ASTROCADE.

I have spent considerable time research-
ing this problem, trying to pinpoint where
the problem lies and how it may be solved;
I believe I have uncovered some good concrete
information that will solve loading problems
for most ASTROCADE owners.

According to Tom Kraus, chief repair techni-
tion at the ASTROCADE repair facility in Iowa,
this has been the most frequent complaint about
the new BASIC (#6004) cartridge. He reports
that approximately 1 out of every 20, or 5%, of
all the BASIC cartridges in the field have a
problem in the input/output section. A pro-
blem cartridge will load a program off a high
quality tape, such as TDK, but not from a less
expensive tape or some of the computer data tapes.

Tom points out that if you are experiencing
a loading problem, do not assume you have a bad
BASIC. First, use a VOM (Volt-Ohm-Meter) to
check the resistance of the phone cable that
connects the BASIC to the cassete recorder. He
states, "It must be less than 1 ohm", and a short
cable is best.

He goes on to report that the quality of the
cassete recorder plays a role also, a fact confirmed
by ASTROCADE spokesperson Ali Pearce. When the
new BASIC first came out, Ms. Pearce says she
received 20 or more phone calls a day from
people having problems. Originally it was thought
that any recorder would work well, but as it turns
out, that is not so, reports Tom.

Does ASTROCADE recommend a particular rec-
order? No, not presently. However, Ali Pearce
says that she would like to eventually compile
a list of recommended blank tapes and cassette
recorders for ASTROCADE owners, but at the pre-
sent time has too many other projects to work on.

After questioning several programers as to
the cassette recorders they use, I gathered a
few makes and models and tried them out. I had
100% success with the Radio Shack CTR-37 portable
cassette recorder. It will literally load any-
thing! Even with the "cheapo-cheapo" tapes, a
volume setting of 8 (1 to 10 scale) was suffi-
cient. Loading of the C-10 data cassettes, such
as those advertised in the SOURCEBOOK, required
only a volume setting of 7. All the tapes I
have from several software manufactuers load
without problem. I highly recommend this par-
ticular recorder. It features a record LED,
(like the BASIC cartridge has), which will glow
bright and steady during program recording,
making recorder-to-recorder program recording
very simple. It also has a counter, which makes
it easy to locate programs on multi-program
tapes. The CTR-37 lists for $49.95, and is on
sale for $31.88 until August 23.

One other recorder reported to perform
well is the Panasonic Slimline. This is the one
that the folks at ASTROCADE use. I could not
personally test this particular model, but
several people have stated that it performs well.
It lists for $39.95.

If you are experiencing some loading problems,
here are a few tips and suggestions solicited
from Tom Kraus, ASTROCADE, and some experienced
programers:

* Keep the Arcade, recorder, and phone
cable away from the T.V.'s power supply area.
RF interference is possible;
* Start the recorder on PLAY, then push GO;
* Start with a volume setting of 7, and
progress upwards by a half (7, 7½, 8, 8½, etc.)
until you find the best setting;
* A volume setting too high will also
cause a program not to load;
* Try TONE control at zero, halfway, and
full. The TONE control can really help when
using a poorer quality cassette. Likewise, if
you are using a high quality tape, too much
TONE can cause trouble too;
* Keep tape recorder heads clean and
demagnetized;
* Do not use a battery operated tape
recorder. Use a battery eliminator. Even
good new batteries can cause wow and flutter;
* Do not record programs close to the
beginning of a tape. Start after 20 seconds
of blank tape, since tape stretches sometimes
after repeated rewinding.

If none of the above helps, try the Radio Shack
CTR-37. If that does not help, you very likely
have a bad BASIC cartridge. Send it to the
ASTROCADE repair facility.
    I hope this report proves helpful. If you
own a recorder that you "swear" by, let Bob F.
know, and perhaps we will publish a list of
brands with the most votes. If I can be of any
assistance, feel free to contact me.

```
   2 NT=1;R=0;V=0;CLEAR ;CY=0;INPUT " MAX SCORE?"Q;CY=-10;INPUT " DIFFICULTY?  1
-BEGINNER              2-PRO"E
   3 NT=0;CLEAR ;&(18)=0;&(17)=0;&(16)=0;&(19)=0;&(20)=0
   4 CY=20;PRINT "   SCORES";CY=10;PRINT "   BUGS....",R;CY=0;PRINT "   HUMAN...
",V;CY=-7;PRINT "**********************"
   5 FOR U=1TO 850;NEXT U;NT=0;CLEAR
   6 CLEAR ;IF E=2A=2
   7 IF E=1A=RND (2)
   8 IF (R=Q)+(V=Q)CY=12;PRINT "*************************";CX=-30;CY=0;PRINT "G
AME OVER"
   9 IF (R=Q)+(V=Q)CY=-12;PRINT "*************************";IF KPRUN
  11 BOX 63,-5,12,20,1;BOX 63,6,1,3,1
  12 BOX 63,8,3,2,1
  13 NT=0;CX=60;CY=-5;PRINT "XX"
  15 X=RND (79)-79
  16 Y=RND (100)-50
  17 IF X<-75X=-75
  18 IF Y<-30Y=-30
  19 IF Y>27Y=28
  50 BOX X,Y,3,13,1;BOX X,Y+1,5,10,1;BOX X,Y+3,7,4,1;BOX X,Y-7,1,1,1;BOX X+1,Y+8
,1,3,1;BOX X-1,Y+8,1,3,1
  60 BOX X-2,Y+9,2,1,1;BOX X+3,Y+9,2,1,1
  70 BOX X,Y+3,7,4,1;BOX X,Y-7,1,1,1;BOX X+1,Y+8,1,3,1;BOX X-1,Y+8,1,3,1;BOX X-2
,Y+9,2,1,1
  80 BOX X+3,Y+9,2,1,1;BOX X+3,Y+8,1,1,1;BOX X-3,Y+8,1,1,1
  90 BOX X-4,Y+5,1,1,1;BOX X+4,Y+5,1,1,1;BOX X+5,Y+3,2,1,1;BOX X+3,Y-2,1,1,1;BOX
X-3,Y-2,1,1,1;BOX X-4,Y+3,2,1,1
  95 IF E=2G=KN(1)c2-42
 100 BOX X-5,Y+6,1,1,1;BOX X+5,Y+6,1,1,1;BOX X+6,Y+2,1,1,1;BOX X+5,Y-1,2,1,1;BOX
X-4,Y-1,2,1,1
 110 BOX X-6,Y+2,1,1,1;BOX X-6,Y+7,1,1,1;BOX X+6,Y+7,1,1,1
 120 BOX X+7,Y+1,1,2,1;BOX X+6,Y-2,1,2,1;BOX X-6,Y-2,1,2,1;BOX X-7,Y+1,1,2,1;BOX
X-7,Y+5,1,3,1;BOX X+7,Y+5,1,3,1
 130 BOX X+8,Y-4,2,1,1;BOX X-7,Y-4,2,1,1;BOX X-8,Y,1,1,1;BOX X-8,Y+4,1,1,1;BOX X
+8,Y+4,1,1,1;BOX X+8,Y,1,1,1
 131 BOX X,Y,1,1,3
 132 IF E=1G=KN(1)c2-42
 133 IF G<-25G=-25
 134 IF G>25G=25
 500 LINE 63,8,4;NT=3;NM=15;NV=255;LINE X,G,3;`
 600 IF G<Y+6IF G>Y-6GOTO 1050
 650 IF (G<Y-7)+(G>Y+7)GOTO 1200
1000 GOTO 6
1050 V=V+1;FOR H=2TO 22STEP 4
1051 NT=2;MU="W";BOX X,Y,H,20,3;BOX X,Y,20,H,3;NEXT H
1052 NT=0;IF TR(1)=0CLEAR ;GOTO 4
1053 GOTO 1052
1200 NT=10;MU="*"
1250 FOR H=20TO 2STEP -2
1251 IF A=1LINE X,Y+5,4;LINE 63,15,1;GOTO 6
1252 IF A=2LINE X,Y+5,4;LINE 63,-5,1;NT=5;MU="8";BOX 63,-5,H,H,3;NT=4;MU="1";BOX
 63,-5,H,H,3;NEXT H
1253 IF A=3LINE X,Y+4,4;LINE 63,-20,1;GOTO 6
1254 NT=0;IF H=0CLEAR ;R=R+1;GOTO 4
1255 GOTO 1254
```

EXTERMINATOR AB
   (a fly-zapping program)
Ken Springsteen
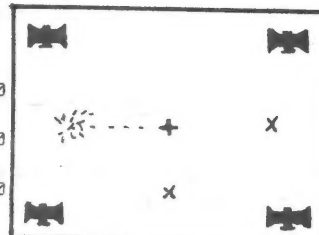1935 Winding Hill Rd.
Davenport, IA 52807
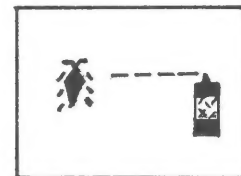
```
    1 .LLZZ89GGINPUT ZUVLLZZ
    5 S=0;FOR Z=1TO 4;@(Z)=0;NEXT Z
   10 CLEAR ;&(20)=20;BC=118;FC=252;NT=0;&(9)=50;GOSUB 600;BC=0
   11 &(9)=7;&(0)=0;&(1)=0;&(2)=149;&(3)=149
   15 BOX 0,0,101,85,3;BOX 0,0,99,83,3
   16 IF P=0CY=8;PRINT " D";PRINT " E";PRINT " M";PRINT " 0
   17 CY=40;PRINT "SC0R",;TV="E"
   18 FOR R=1TO 3;FOR T=1TO P;CY=32;CX=60;PRINT #0,T," UP
   19 S=@(T);GOSUB 550;CY=16;CX=58;PRINT "BASE";CX=67;PRINT #0,R
   20 IF A=0A=-48b(RND (F)=1);IF A=0GOTO 50
   30 A=A+6;CX=A-6;CY=98;TV=32;IF A=0GOTO 500
   50 IF B=0B=(RND (F)=1)b40;IF B=0GOTO 80
   60 B=B-5;BOX 0,B+5,6,7,2;CY=B;CX=0;TV=98;IF B=0GOTO 500
   80 IF C=0C=(RND (F)=1)b48;IF C=0GOTO 110
   90 C=C-6;BOX C+6,0,6,7,2;CX=C;CY=0;TV=98;IF C=0GOTO 500
  110 IF D=0D=-40b(RND (F)=1);IF D=0GOTO 140
  120 D=D+5;BOX 0,D-5,6,7,2;CX=0;CY=D;TV=98;IF D=0GOTO 500
  140 IF P=0GOTO 700
  145 FOR Z=1TO 3;Y=&(15+T);IF Y=0NEXT Z;GOTO 190
  150 XY=0;IF Y=4IF ALINE A,0,3;LINE 0,0,3;BOX A,0,6,7,2;A=A-18;S=S+25;IF A<-48A=
0
  160 IF Y=1IF BLINE 0,B,3;LINE 0,0,3;BOX 0,B,6,7,2;B=B+15;S=S+25;IF B>40B=0
  170 IF Y=8IF CLINE C,0,3;LINE 0,0,3;BOX C,0,6,7,2;C=C+18;S=S+25;IF C>48C=0
  180 IF Y=2IF DLINE 0,D,3;LINE 0,0,3;BOX 0,D,6,7,2;D=D-15;S=S+25;IF D<-40D=0
  185 IF L#S NT=9;MU=R+59;NT=0;CY=40-16bT;CX=-78;PRINT #0,S;L=S
  190 E=E-9bR;IF E<0E=0
  200 F=Ec100+1;GOTO 20
X 500 &(16)=1;&(23)=4;&(21)=-1;&(22)=-1;&(17)=-1;&(18)=-2;&(19)=-2
  505 FOR Z=3TO 81STEP 3;FOR Z=1TO 8-Zc15
  510 BOX RND (Z)-Zc2,RND (Z)-Zc2,RND (3),RND (3),3;NEXT V;NEXT Z
  515 @(T)=S;FOR Z=3TO 83STEP 5;BOX 0,0,Z,Z,2;NEXT Z
X 516 FOR Z=16TO 23;&(Z)=0;NEXT Z;&(20)=20;NEXT T;NEXT R
  518 FOR Z=1TO 500;NEXT Z
X 520 &(22)=-1;&(20)=129;&(16)=49;FOR Z=-24574TO -24559STEP 4;&(17)=%(Z)c256+%(Z+
1)c256
X 530 &(18)=%(Z+2)c256+%(Z+3)c256;FOR Q=1TO 500;NEXT Q;NEXT Z
X 540 &(22)=0;&(17)=0;&(18)=0;CY=0;CX=-30;PRINT " GAME 0VER!
  544 IF TR(1)RUN
  546 FC=FC+1;GOTO 544
  550 A=0;B=0;C=0;D=0;BOX 0,0,101,8,2;BOX 0,0,7,87,2
  552 FOR Y=30TO -30STEP -60;FOR X=-35TO 35STEP 70;BOX X,Y,11,3,1;BOX X,Y,3,9,1;B
OX X,Y+5,5,3,3
  555 BOX X+5,Y,1,9,1;BOX X-5,Y,1,9,1;BOX X-4,Y,1,5,1
  557 BOX X+4,Y,1,5,1;NEXT X;NEXT Y
  560 BOX 0,0,1,3,1;BOX 0,0,3,1,1;E=1000;F=10;RETURN
  600 PRINT "          CITADEL";CY=9;PRINT " NUMBER 0F PLAYERS
  610 CY=0;P=&(28)c63;IF P=0PRINT "      DEM0";GOTO 620
  615 PRINT P
  620 IF TR(1)CLEAR ;RETURN
  630 GOTO 610
  700 M=AbA;Y=4;IF A=0M=9999
  710 IF BbB<MIF B#0M=BbB;Y=1
  720 IF CbC<MIF C#0M=CbC;Y=8
  730 IF DbD<M IF D#0Y=2
  740 GOTO 150
     CITADEL
```

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The numbers in the right-hand column are to be inputted to the small routine on p.105

20258	213
	175
	33
	0
	64
	14
	90
	6
	40
	203
	130
	126
	230
	170
	31
	203
	26
	31
	203
	18
	174
	230
	170
	174
	119
	35
	16
	239
	13
	32
	232
	209
20290	201

✗ Delete underlined portions for AB

You are stationed in the middle of a large fort. There are four entrances to the fort, one on a side. The object is to keep the kamikaze invaders from destroying you. Move joystick to fire. To start the game, move knob to select number of players, or select demo to watch the computer play (by no means an expert). Press trigger to begin. Each player uses a different hand controller.

By the way, your shots are only enough to stun them. You must force them out of the fort or they will keep coming. Another one will eventually come in its place. You can only hope to hold them off as long as possible. Each hit accumulates 25 points.

In Line 1, use the keyword INPUT
Use the KNob when the first picture appears, to
initiate the DEMO program.

Nitron Purchases Game Inventory

WASHINGTON — Nitron, Inc., which earlier agreed to become the principal supplier of video arcades and game cartridges to Astrocade, Inc., said it has purchased about $5.6 million of related inventory from Astrocade.

In a filing with the Securities and Exchange Commission, Nitron said the inventory includes components, work in process and completed goods of home entertainment video programmable arcades and game cartridges.

Nitron will use the inventory to assemble arcades and cartridges, which, in turn, it will sell to Astrocade, formerly Astrovision, Inc., on or before next Dec. 31.

As reported (EN April 5), Nitron has a $108 million contract to supply video game and personal computer board-level products to Astrocade, with $32 million worth to be supplied this year and $76 million in 1983.

Although Astrocade is licensed to produce video games by Chicago's Bally Manufacturing Corp., Nitron's chief operating officer Richard Forte said that "for all intents and purposes" Astrocade is out of the manufacturing business.

Ken Springsteen reports that a few of his items are still available: Arcade w/2 contr-150. Old B Basic w/interface-30. New Basic,patch cord -30. selection of Vcades -15,20 each. 4 cas tapes with 70 to 120 progr. each @25.ea. 16 other tapes w/prog 30.all. Vols 1-4 ARCADIAN,binders 25.all. COD but Ken pays postage. 1935 Winding Hill Rd Davenport, IA 52807   319-355-5469

For Sale: Bally Arcade, excellent condition, includes 2 Astrobasic cassettes/
Galaxian/Astro Battle/Bally Pin/Football/Baseball/Panzer Attack/Blackjack/
Letter Match/Bingo Math/Grand Prix. Also 4 controllers, plus BOUND VOLUMES
of ARCADIAN # 2/3/4 , and assorted software. $375 Complete.
Paul Colten 274 First Avenue, New York, N.Y. 10009 (212) 473-0624

MUST SELL: Arcade in perfect condition with 4 controllers and
new basic cartridge. Football, Galaxian, and Space Fortress
cartridges. Over 75 programs on casette tape, most taken from
the Arcadian. The following written material is all indexed and
mounted in 3 ring binders: All issues of Arcadian to present.
Z-80 assembly language listings. New basic listings with onboard
subroutines. PA-1 Bally service manual. Hacker's Manual for old
basic. At least a $700 value. Will sacrifice for $450 plus UPS
shipping and insurance cost. Contact: D. D. Reed, 86 Terrace Dr.,
White Sulphur Spgs., WV 24986.

→ 1982 Bally Arcade, 2 hand controllers, new Bally Basic with Audio Interface,
Galactic Inv., Astro Battle, Sea Wolf, 1 year subscription to the Arcadian
$360. Mark Droste (501) 431-8104. Rt. 1 Box 44c Lakeview, AR 72642.

FOR SALE ARCADE,BBasic, CInterface, 4 controllers; RBaron,SBattle, IMatch, BMath,AMaze,
BBall,280ZZp,Poker, FBall, SWolf, ABattle, BYard, BPin. 4 vols ARCADIAN $350. Ken
Mueller 16051 Yarnell St., Sylmar, CA 91342 213-367-0888

FOR SALE ARCADE with 6 controllers (2 need repair),BBasic,CInterface,PBall, FBall, BBall
SWolf,Invaders,Hays cassette.3 Vols ARCADIAN,2 vols Cursor.$300 Paul Fallon- days:
203-629-6554/nites 914-666-3734

`Arcadian´ would like to contact other Arcade owners in the St. Catherines Ontario CAN
area. K. O'Neill 6 Wood-Dale Dr. St. Catherines..L2T 1Y8

FOR SALE ARCADE as is-works occasionally-video problems(?) BBasic,CInterface,4 control-
lers,Panzer,280 ZZp Invaders,Clowns, all ARCADIAN issues $250 obo - Pete Elgroth
1245 Lillians St. Livermore, CA 94550 415-447-3053

FOR SALE-Videocades-SWolf,280Zapp,BBall,FBall, BPin,Clowns,both Basics,$200-worth of
vendor tapes. First $300 Money order, bank check,etc., takes the lot, plus some extras
Steve Saldutti 308 E 6 St. Lansdale PA 19446

BALLY's Dogpatch & Grand Prix at $22 each plus 3%post. NY sales tax if appl. Also Atari
and Colecovision products. Videogame Products, Box 959, NYC 11377

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ARCADIAN Newsletter
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